

## CLAIMS:

1. A wireless network comprising a radio network controller and a plurality of assigned terminals, which are

- each provided for transmitting transport blocks formed by packet data units of a logic channel over a transport channel to which a transmission time interval is assigned that comprises at least one radio frame and which transport channel is active when the beginning of its transmission time interval and that of a radio frame correspond,

- provided for forming at least a transport format combination, which combinations denote the transport blocks to be transmitted over each transport channel,

- successively provided for each logic channel to select a number of transport format combinations which permit the highest number or more than the highest number of available packet data units to be transmitted, while taking stored packet data units into account of already considered logic channels which are also mapped onto the same transport channel,

- provided for selecting from the reduced number of transport format combinations the transport format combination that contains the lowest number of transport blocks while the already assigned inactive transport channels are taken into account.

2. A wireless network as claimed in claim 1, characterized in that logic channels having different priorities are mapped onto exactly one transport channel and in that the radio network controller or a terminal is provided for making the selection of a number of transport format combinations in the order of priority of the logic channels.

3. A wireless network as claimed in claim 2, characterized in that the radio network controller or a terminal is provided for performing a sorting of the logic channels at the beginning of the transmission according to the priorities of the logic channels and, with equal priority of the logic channels, according to the length of a transmission time interval used as the basis, whose duration corresponds at least to one radio frame, and at the beginning of each radio frame is provided for making a sorting according to the number of blocks waiting in the buffers of the logic channels without considering the duration of the transmission time interval.

4. A wireless network as claimed in claim 1, characterized in that the MAC layer (MAC = Medium Access Control) of a radio network controller or of a terminal is provided for selecting a transport format combination.

5. A wireless network as claimed in claim 4, characterized in that an RLC layer (RLC = Radio Link Control) of the radio network controller or of a terminal is provided for storing packet data units provided for transmission and the MAC layer is provided for forming a transport block from a packet data unit delivered over a logic channel.

10 6. A radio network controller of a wireless network comprising a plurality of assigned terminals, in which the radio network controller

- is provided for transmitting transport blocks formed by packet data units of a logic channel over a transport channel to which a transmission time interval is assigned that comprises at least one radio frame and which transport channel is active when the beginning of its transmission time interval and that of a radio frame correspond,
- is provided for forming at least a transport format combination, which combinations denote the transport blocks to be transmitted over each transport channel,
- is successively provided for each logic channel to select a number of transport format combinations which permit the highest number or more than the highest number of available packet data units to be transmitted, while taking stored packet data units into account of already considered logic channels which are also mapped onto the same transport channel,
- is provided for selecting from the reduced number of transport format combinations the transport format combination that contains the lowest number of transport blocks while the already assigned inactive transport channels are taken into account.

7. A terminal of a wireless network comprising a radio network controller, which terminal

- is provided for transmitting transport blocks formed by packet data units of a logic channel over a transport channel to which a transmission time interval is assigned that comprises at least one radio frame and which transport channel is active when the beginning of its transmission time interval and that of a radio frame correspond,
- is provided for forming at least a transport format combination, which combinations denote the transport blocks to be transmitted over each transport channel,

- is successively provided for each logic channel to select a number of transport format combinations which permit the highest number or more than the highest number of available packet data units to be transmitted while stored packet data units are taken into account of already considered logic channels which are also mapped onto the same transport channel,
- 5 - is provided for selecting from the reduced number of transport format combinations the transport format combination that contains the lowest number of transport blocks while the already assigned inactive transport channels are taken into account.

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